FIG. 1A

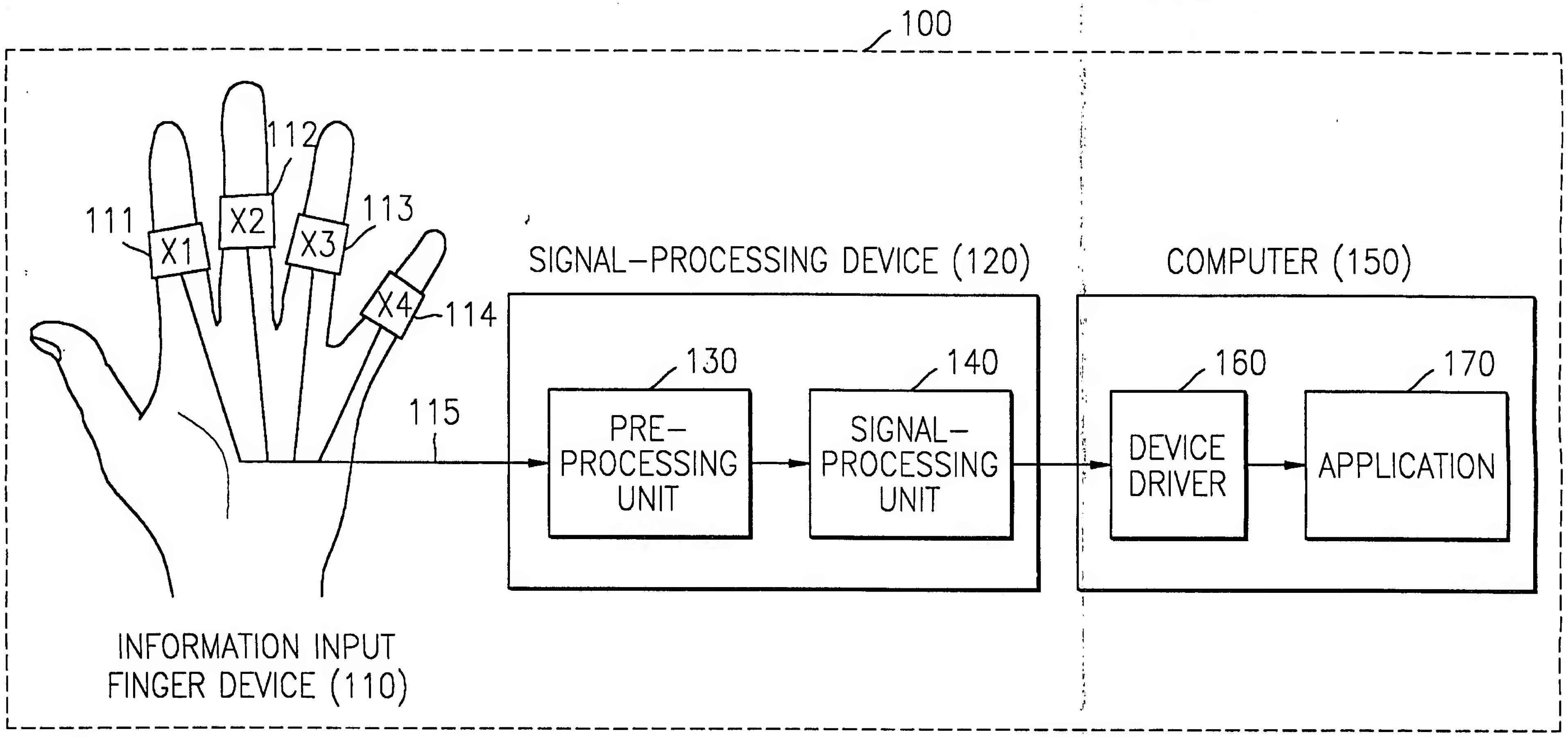

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FIG. 1B

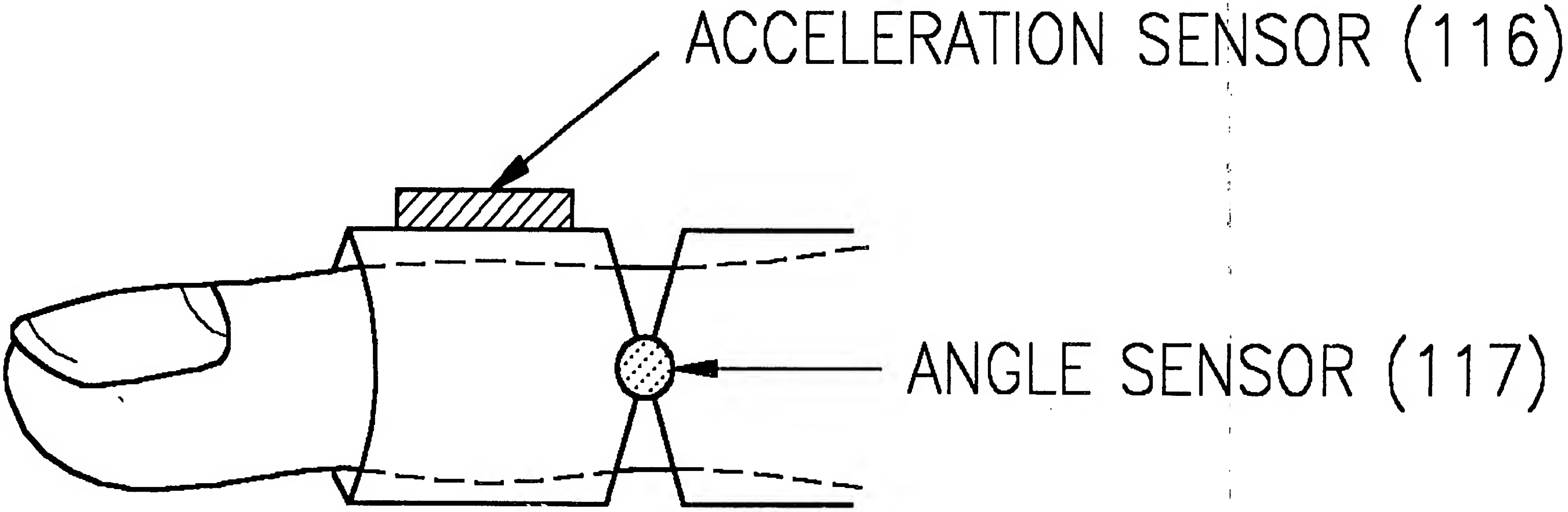

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FIG. 2

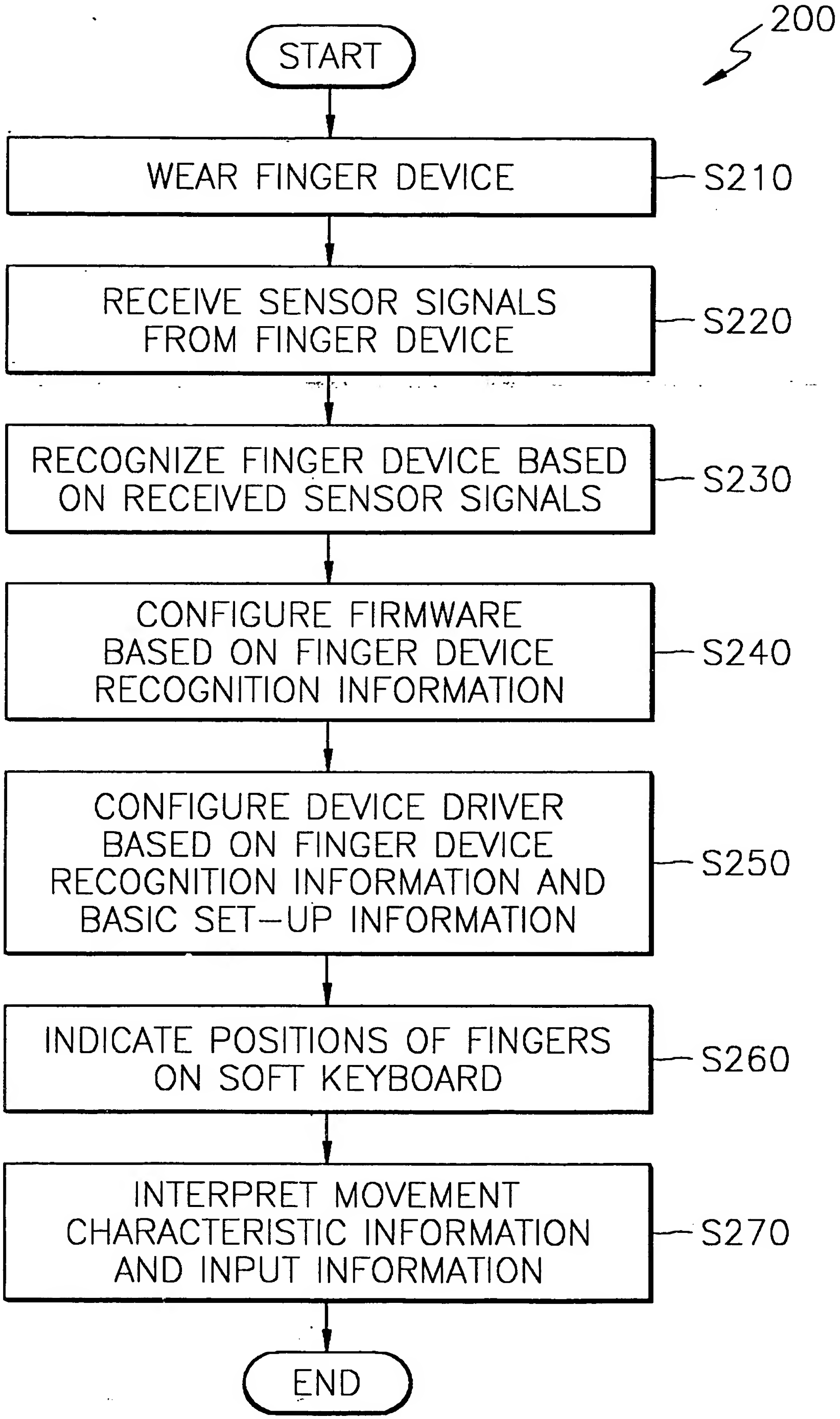
200
START
WEAR FINGER DEVICE
S210
RECEIVE SENSOR SIGNALS FROM FINGER DEVICE
S220
RECOGNIZE FINGER DEVICE BASED ON RECEIVED SENSOR SIGNALS
S230
CONFIGURE FIRMWARE BASED ON FINGER DEVICE RECOGNITION INFORMATION
S240
CONFIGURE DEVICE DRIVER BASED ON FINGER DEVICE RECOGNITION INFORMATION AND BASIC SET-UP INFORMATION
S250
INDICATE POSITIONS OF FINGERS ON SOFT KEYBOARD
S260
INTERPRET MOVEMENT CHARACTERISTIC INFORMATION AND INPUT INFORMATION
S270
END

FIG. 3A

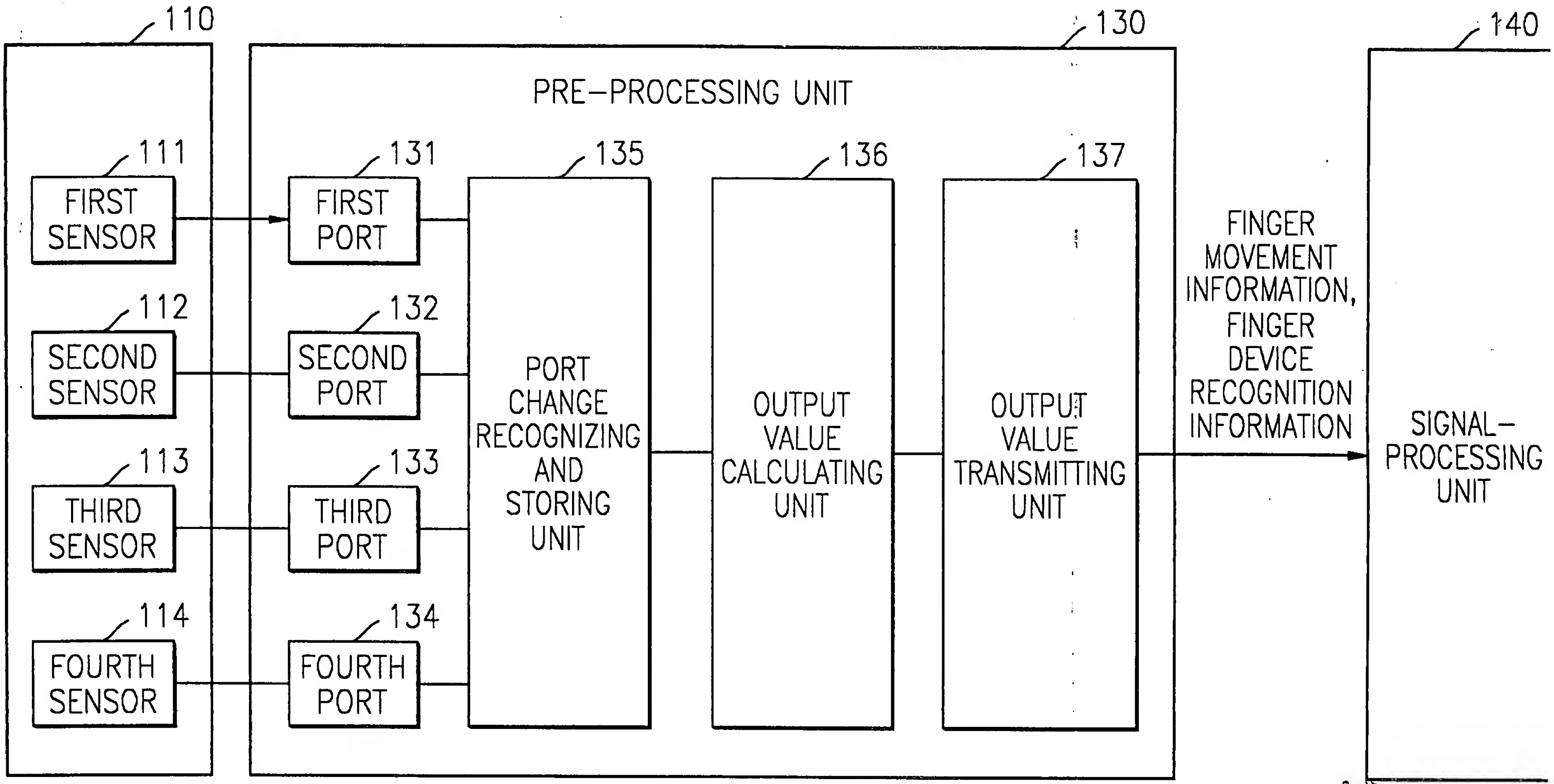
110
111
FIRST SENSOR
112
SECOND SENSOR
113
THIRD SENSOR
114
FOURTH SENSOR
130
PRE-PROCESSING UNIT
131
FIRST PORT
132
SECOND PORT
133
THIRD PORT
134
FOURTH PORT
135
PORT CHANGE RECOGNIZING AND STORING UNIT
136
OUTPUT VALUE CALCULATING UNIT
137
OUTPUT VALUE TRANSMITTING UNIT
FINGER MOVEMENT INFORMATION, FINGER DEVICE RECOGNITION INFORMATION
140
SIGNAL-PROCESSING UNIT

FIG. 3B

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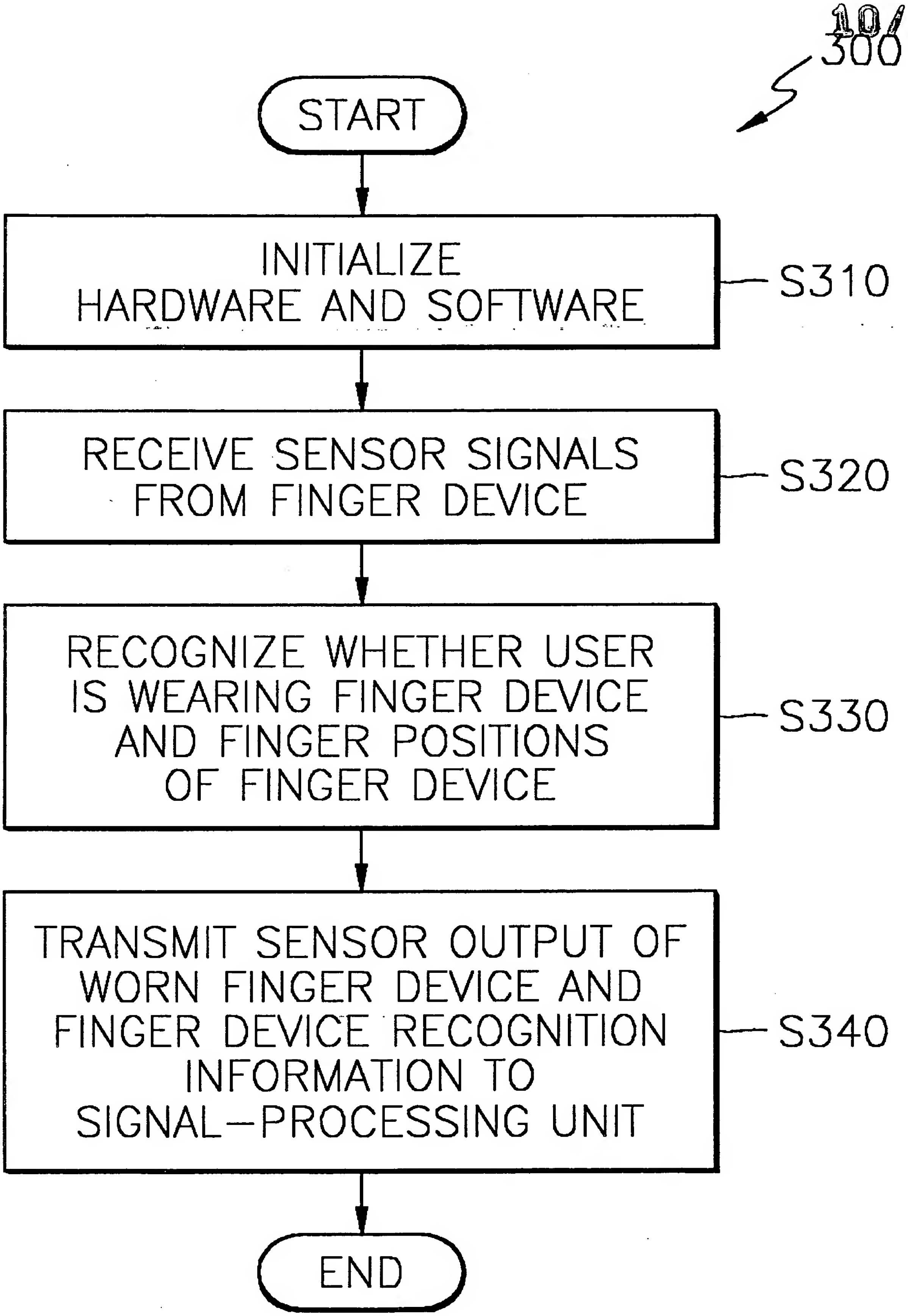

FIG. 4A

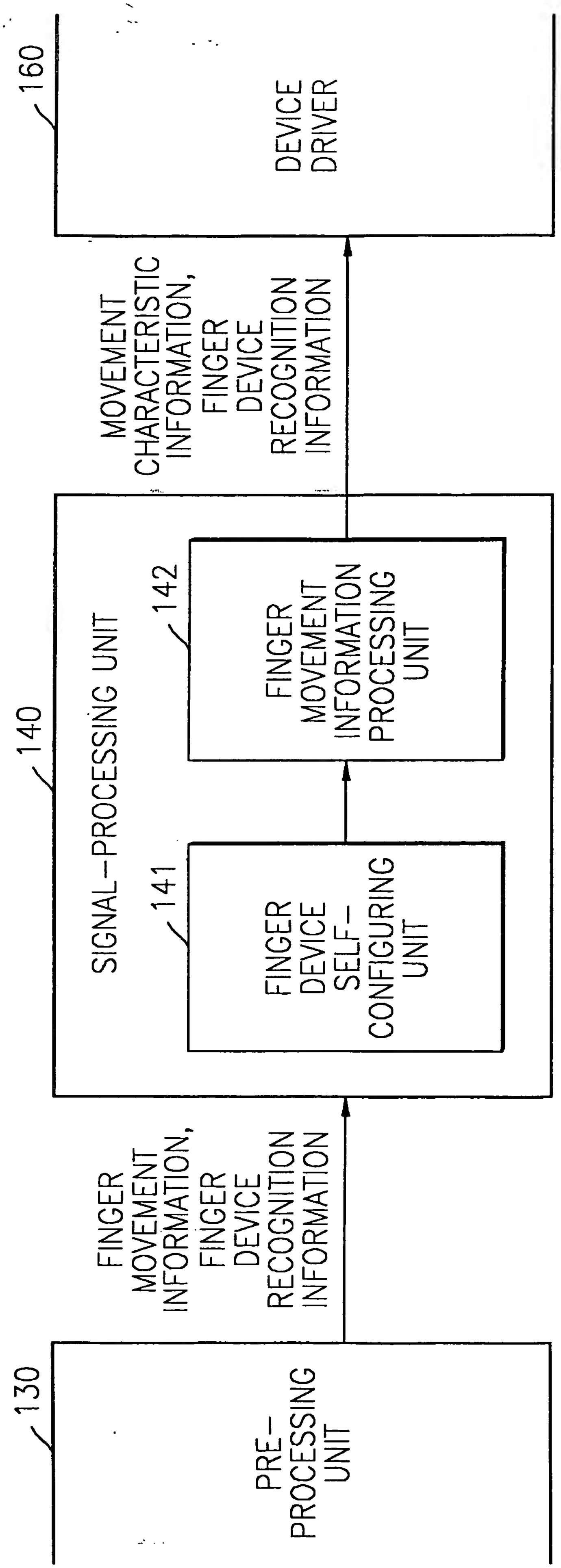
PRE-PROCESSING UNIT
130
FINGER MOVEMENT INFORMATION, FINGER DEVICE RECOGNITION INFORMATION
SIGNAL-PROCESSING UNIT
140
FINGER DEVICE SELF-CONFIGURING UNIT
141
FINGER MOVEMENT INFORMATION PROCESSING UNIT
142
MOVEMENT CHARACTERISTIC INFORMATION, FINGER DEVICE RECOGNITION INFORMATION
DEVICE DRIVER
160

FIG. 4B

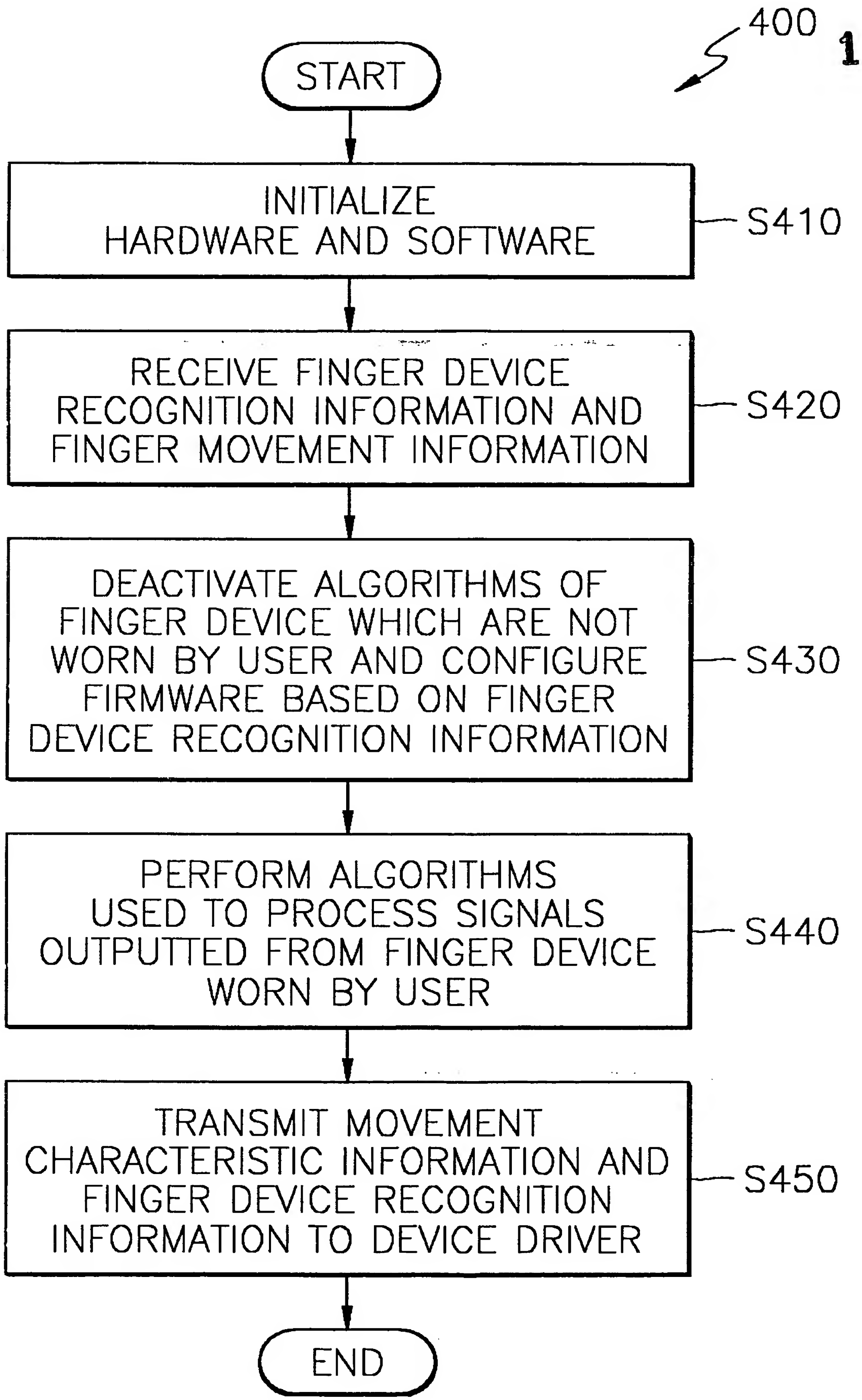
400
START
INITIALIZE HARDWARE AND SOFTWARE
S410
RECEIVE FINGER DEVICE RECOGNITION INFORMATION AND FINGER MOVEMENT INFORMATION
S420
DEACTIVATE ALGORITHMS OF FINGER DEVICE WHICH ARE NOT WORN BY USER AND CONFIGURE FIRMWARE BASED ON FINGER DEVICE RECOGNITION INFORMATION
S430
PERFORM ALGORITHMS USED TO PROCESS SIGNALS OUTPUTTED FROM FINGER DEVICE WORN BY USER
S440
TRANSMIT MOVEMENT CHARACTERISTIC INFORMATION AND FINGER DEVICE RECOGNITION INFORMATION TO DEVICE DRIVER
S450
END

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FIG. 5A

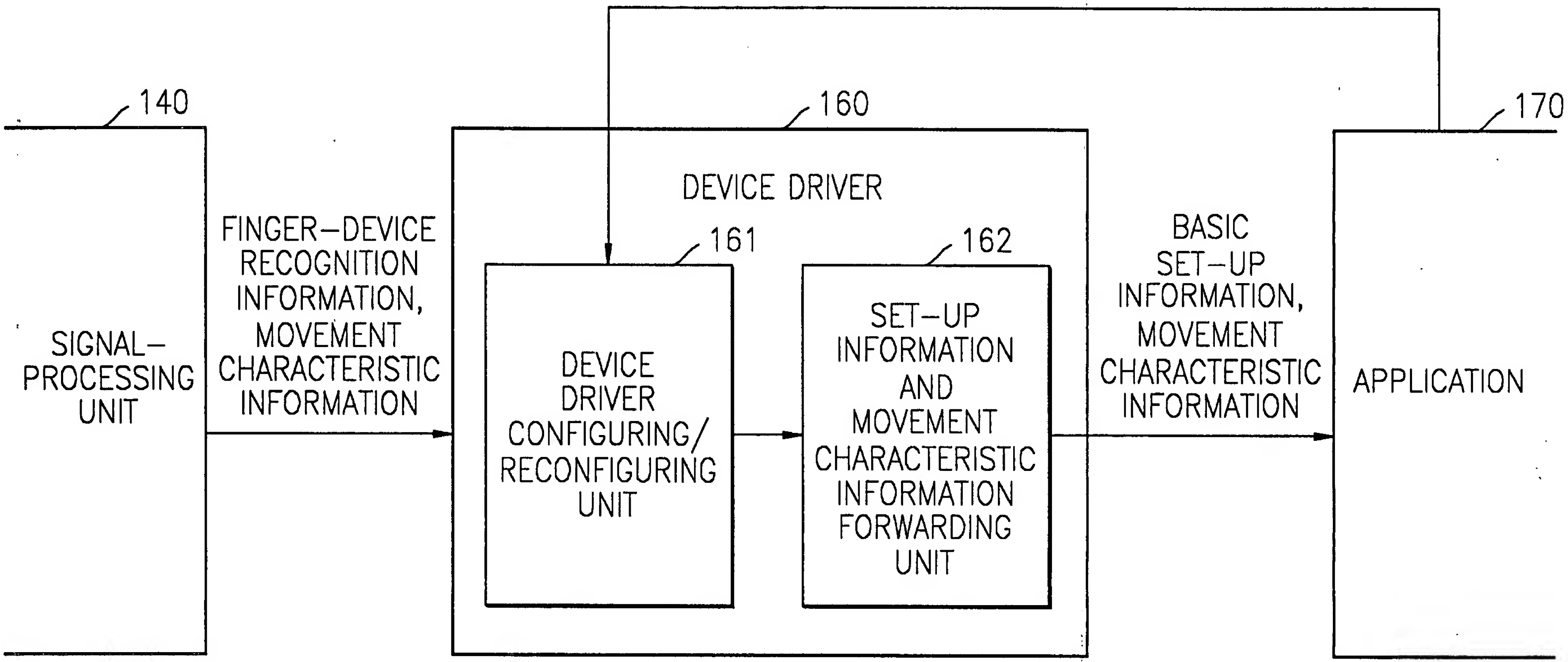

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FIG. 5B

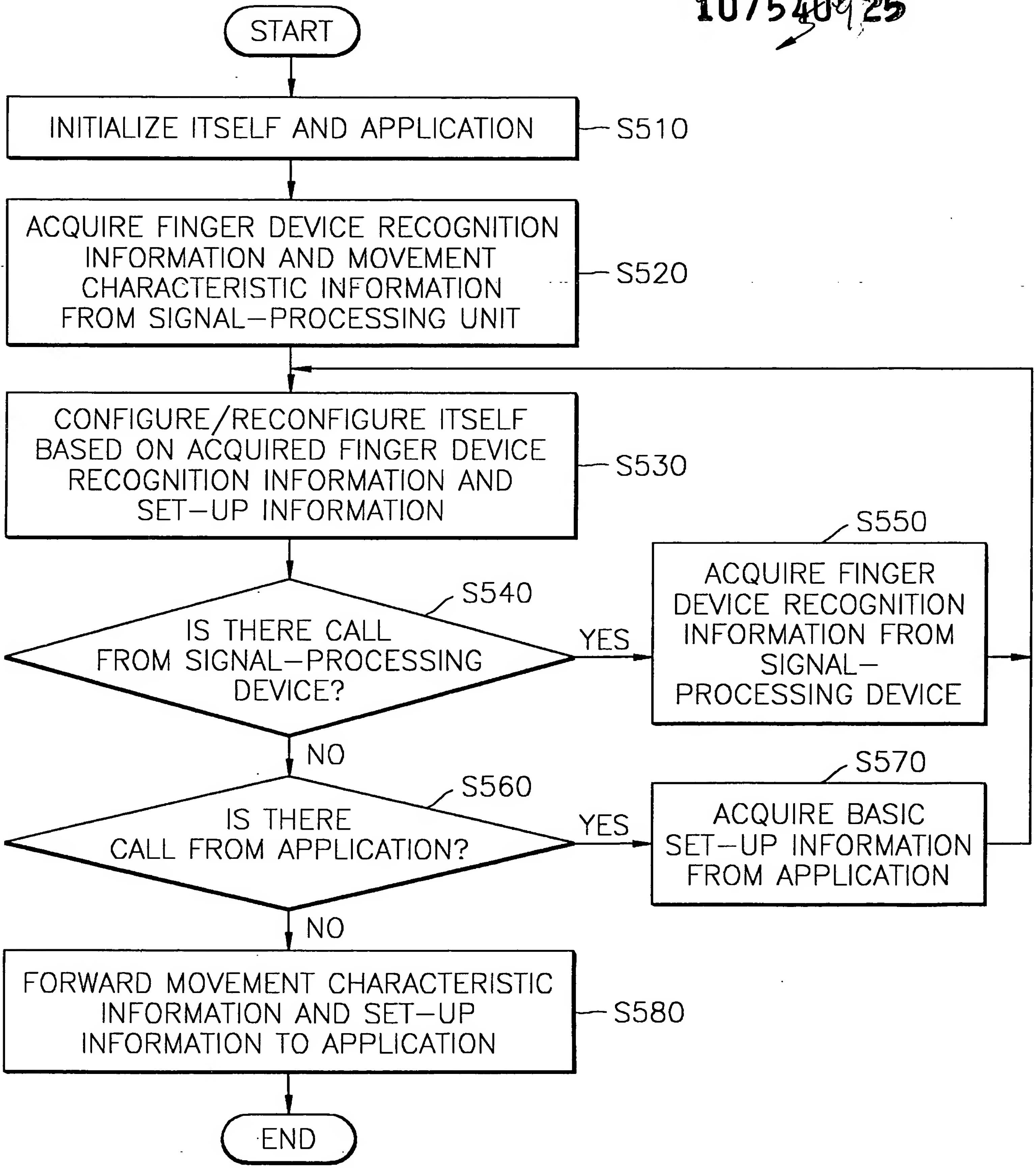

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FIG. 6A

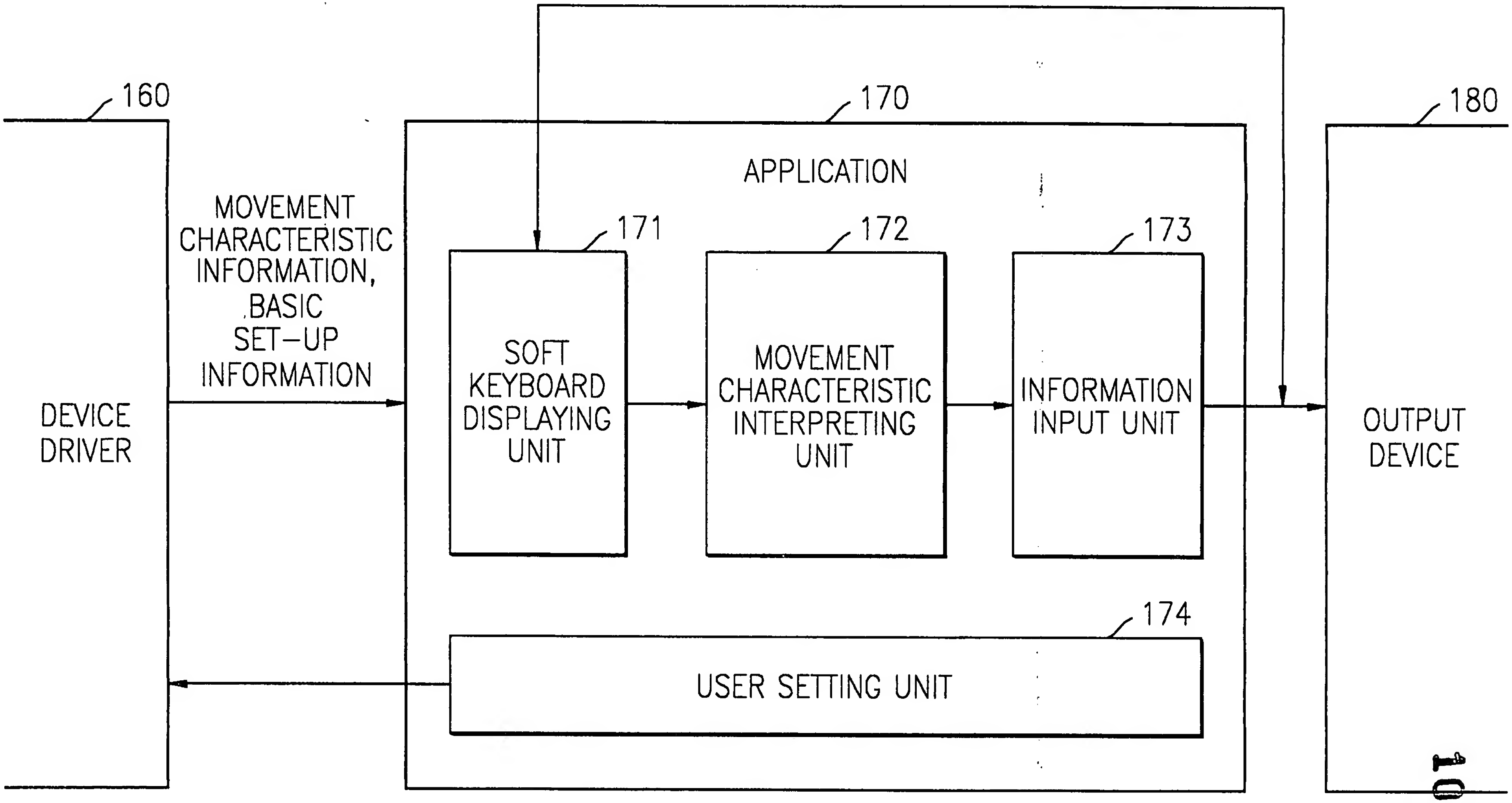

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FIG. 6B

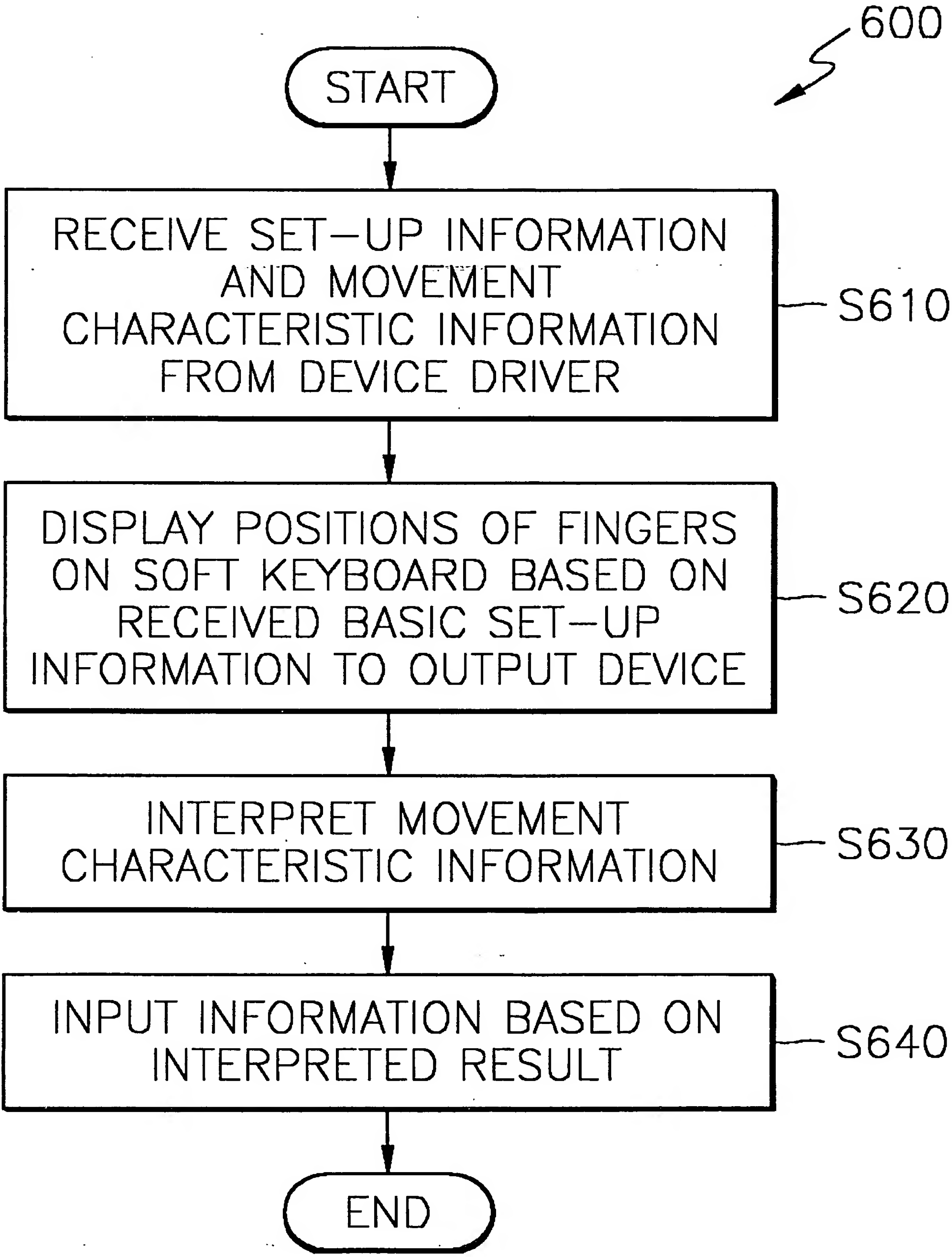

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FIG. 7

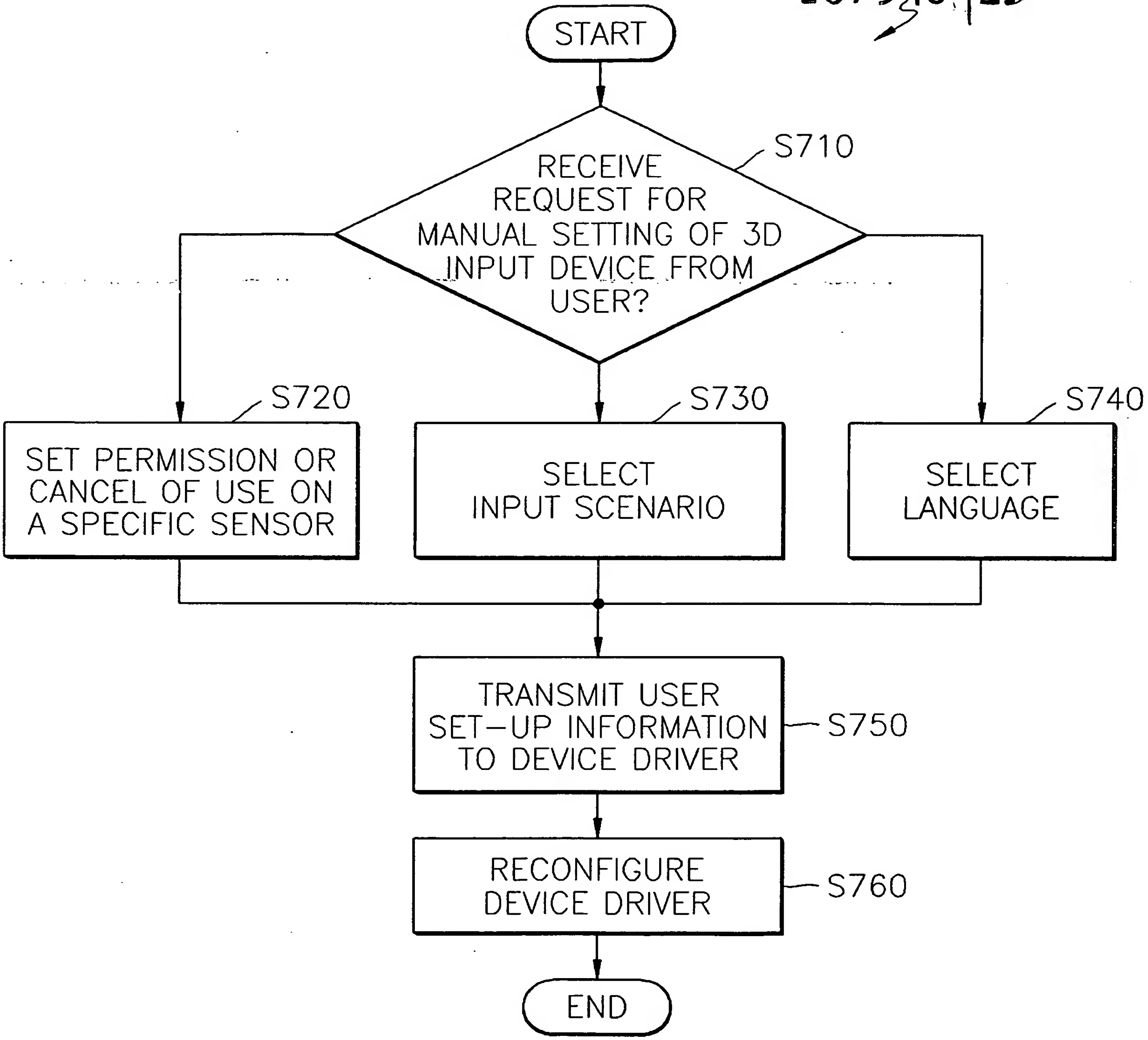

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FIG. 8

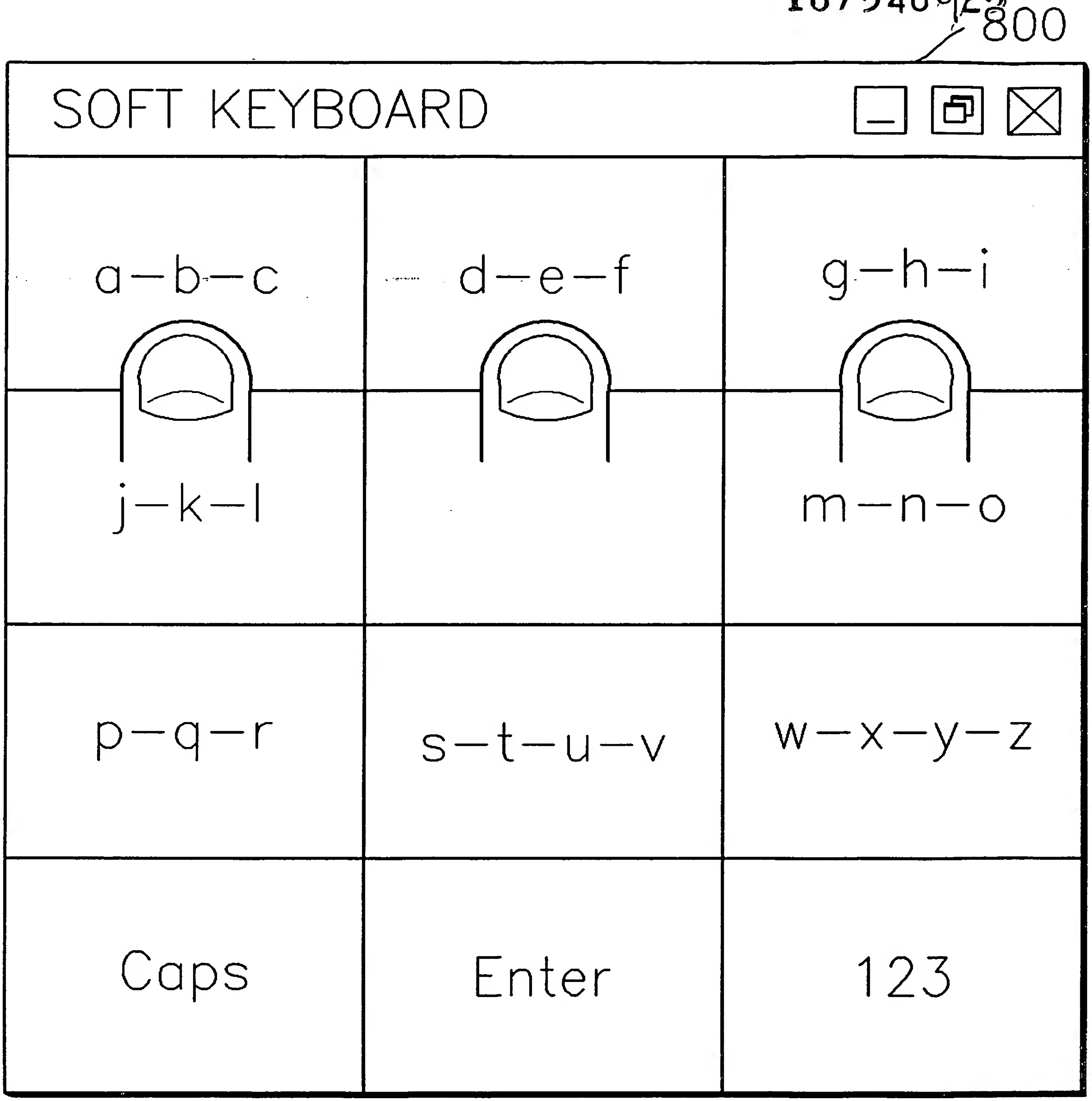
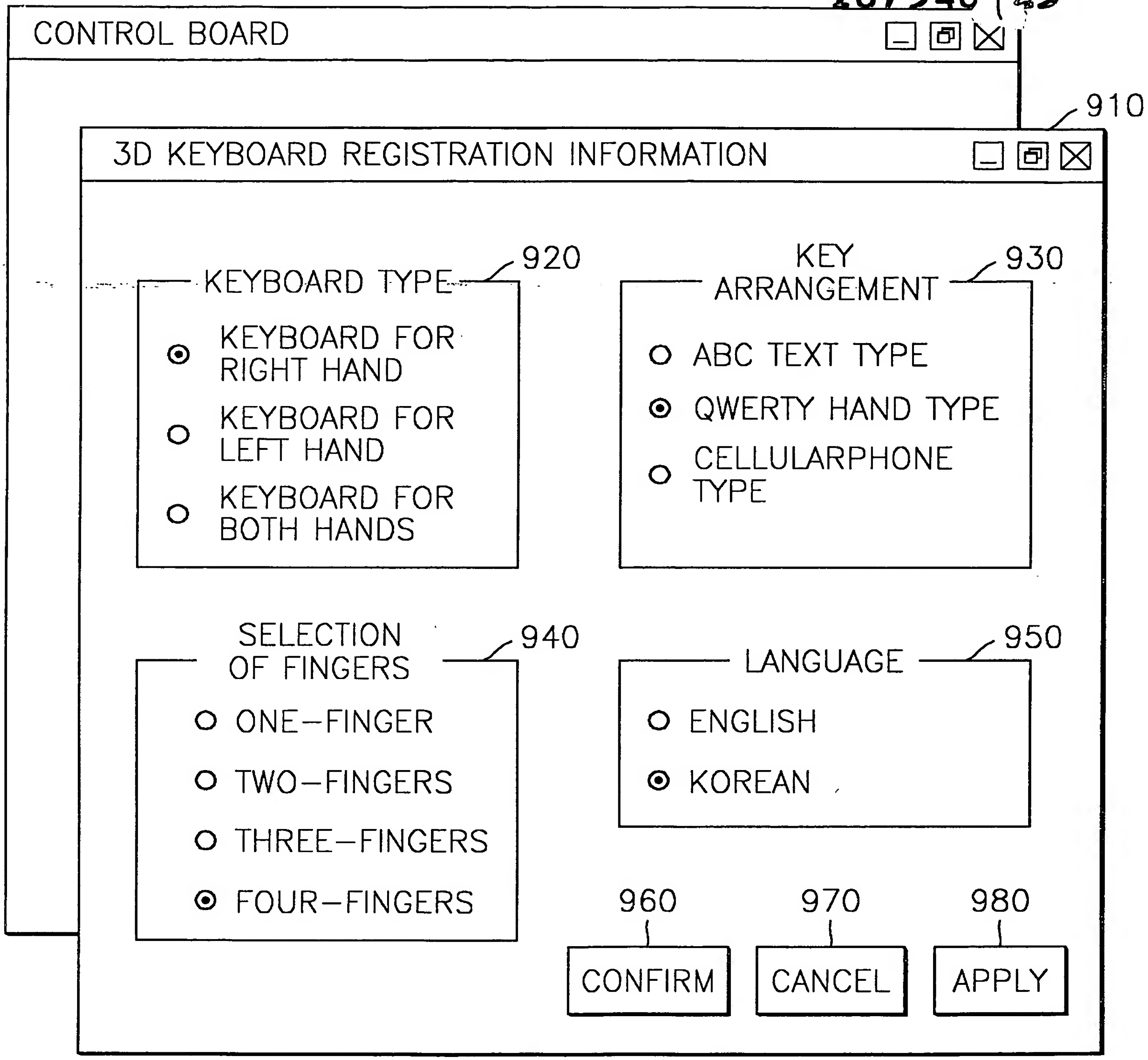


FIG. 9


CONTROL BOARD

3D KEYBOARD REGISTRATION INFORMATION

KEYBOARD TYPE
- ● KEYBOARD FOR RIGHT HAND
- ○ KEYBOARD FOR LEFT HAND
- ○ KEYBOARD FOR BOTH HANDS

KEY ARRANGEMENT
- ○ ABC TEXT TYPE
- ● QWERTY HAND TYPE
- ○ CELLULARPHONE TYPE

SELECTION OF FINGERS
- ○ ONE-FINGER
- ○ TWO-FINGERS
- ○ THREE-FINGERS
- ● FOUR-FINGERS

LANGUAGE
- ○ ENGLISH
- ● KOREAN

FIG. 10

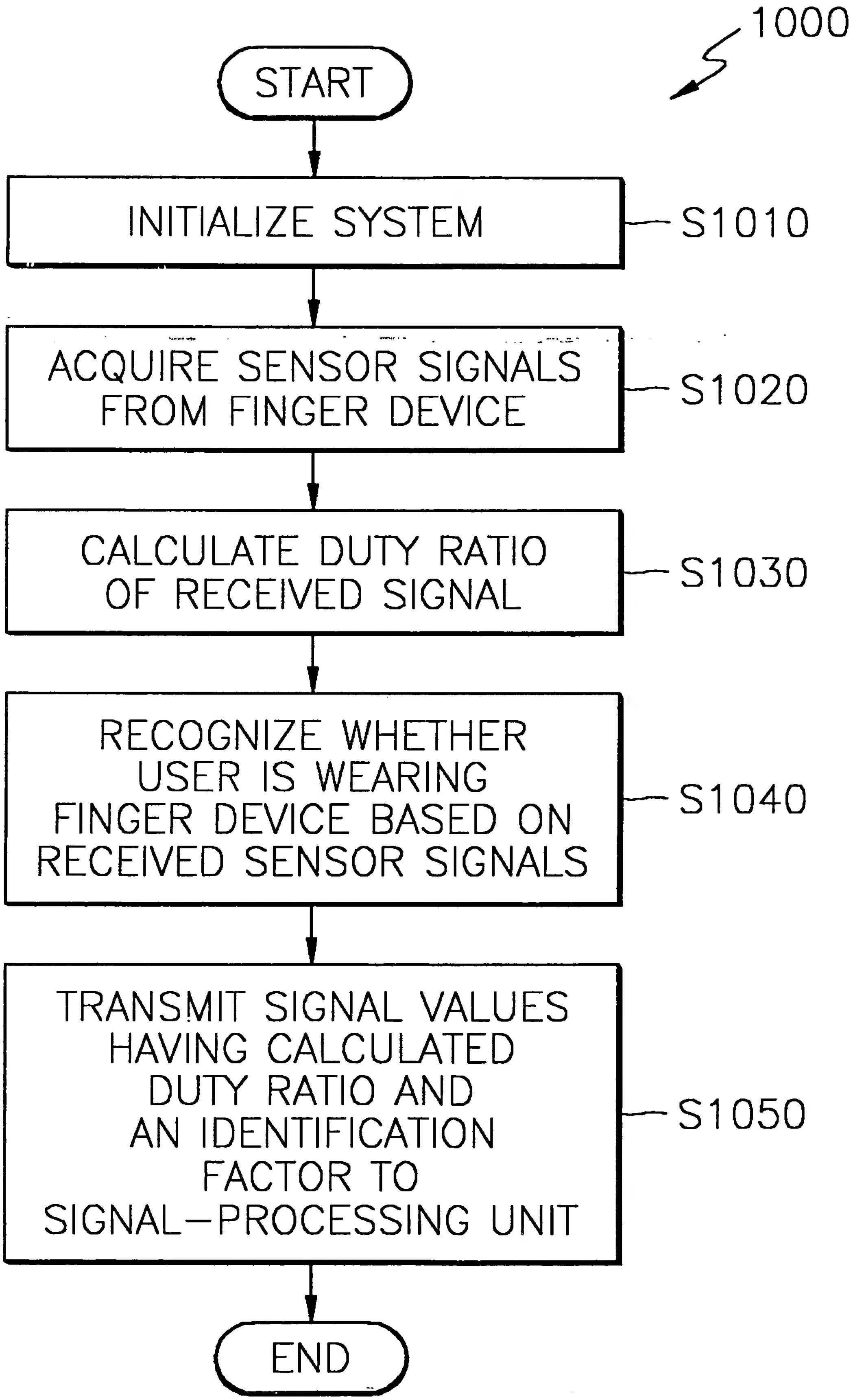

1000
START
INITIALIZE SYSTEM
S1010
ACQUIRE SENSOR SIGNALS FROM FINGER DEVICE
S1020
CALCULATE DUTY RATIO OF RECEIVED SIGNAL
S1030
RECOGNIZE WHETHER USER IS WEARING FINGER DEVICE BASED ON RECEIVED SENSOR SIGNALS
S1040
TRANSMIT SIGNAL VALUES HAVING CALCULATED DUTY RATIO AND AN IDENTIFICATION FACTOR TO SIGNAL-PROCESSING UNIT
S1050
END

FIG. 11

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1100

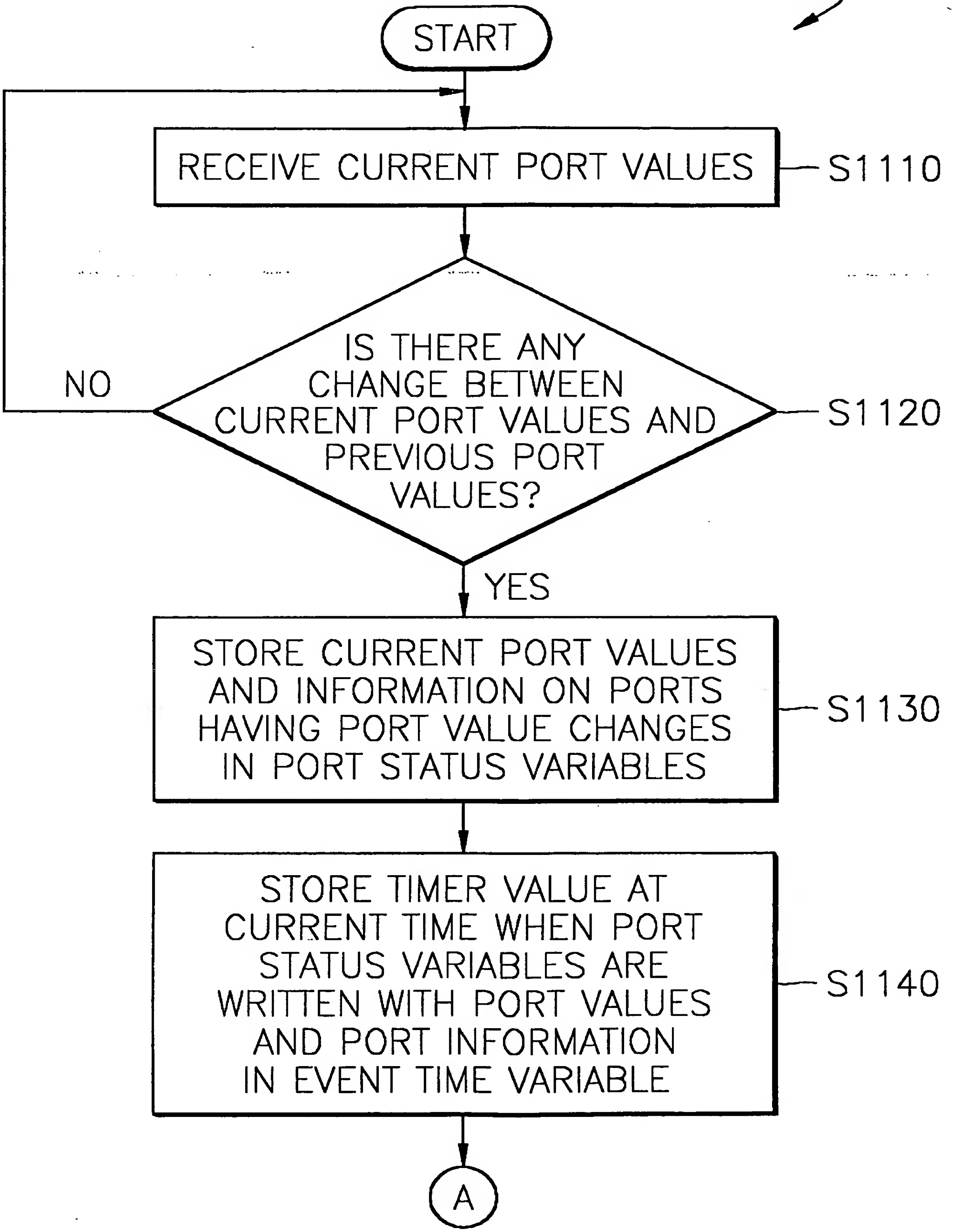

FIG. 12

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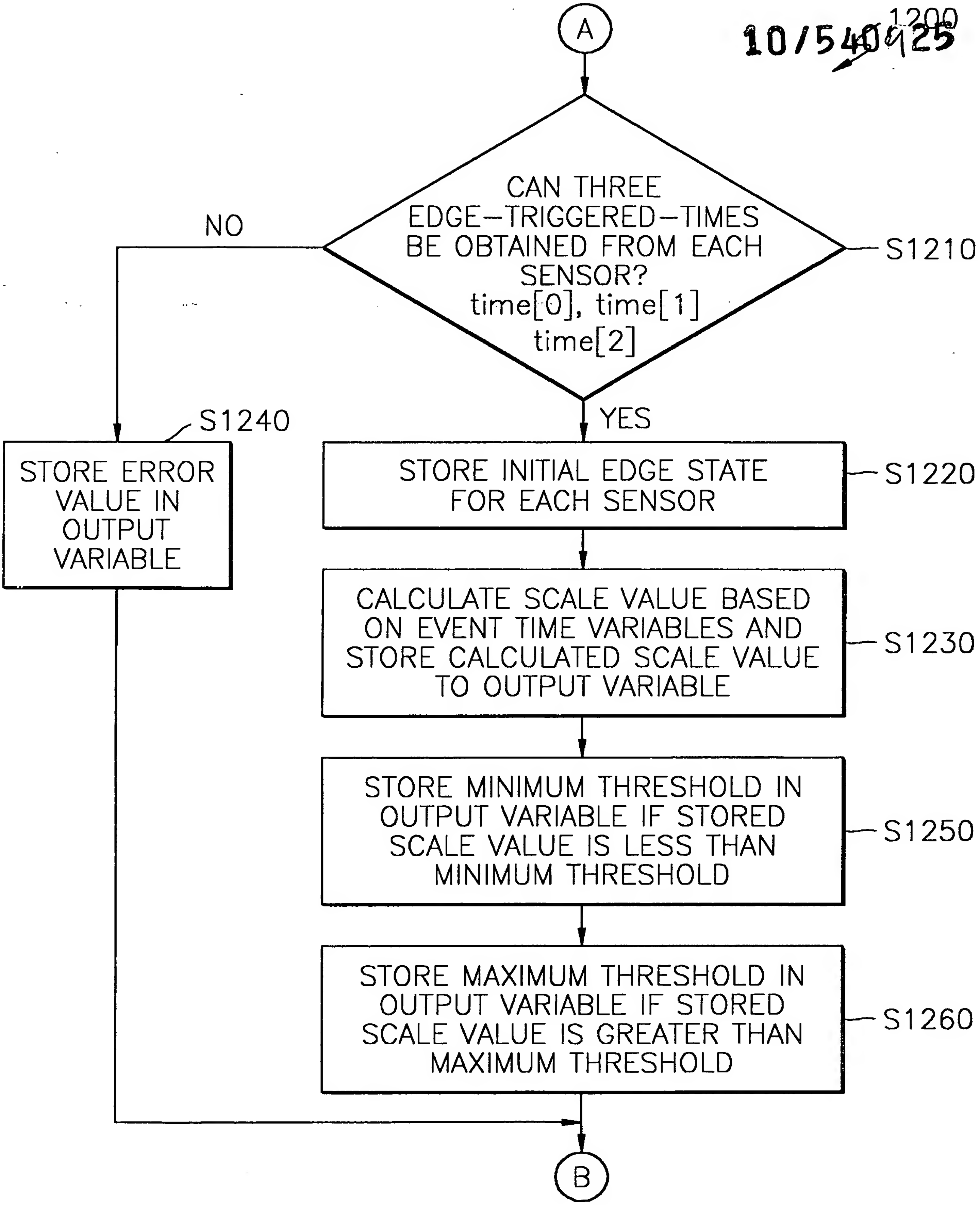

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FIG. 13

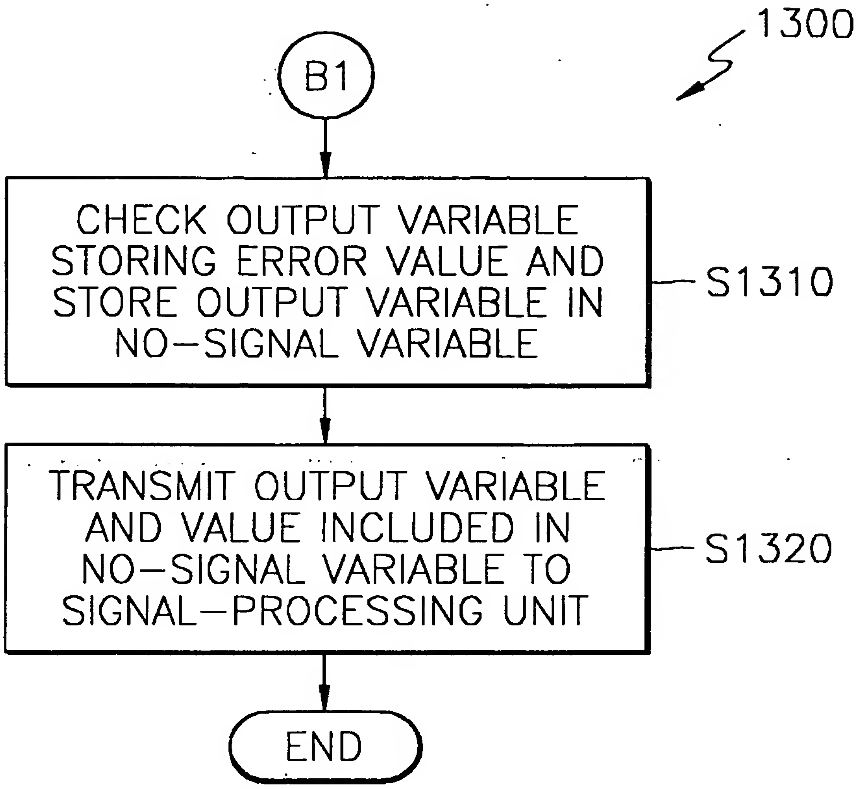

FIG. 14

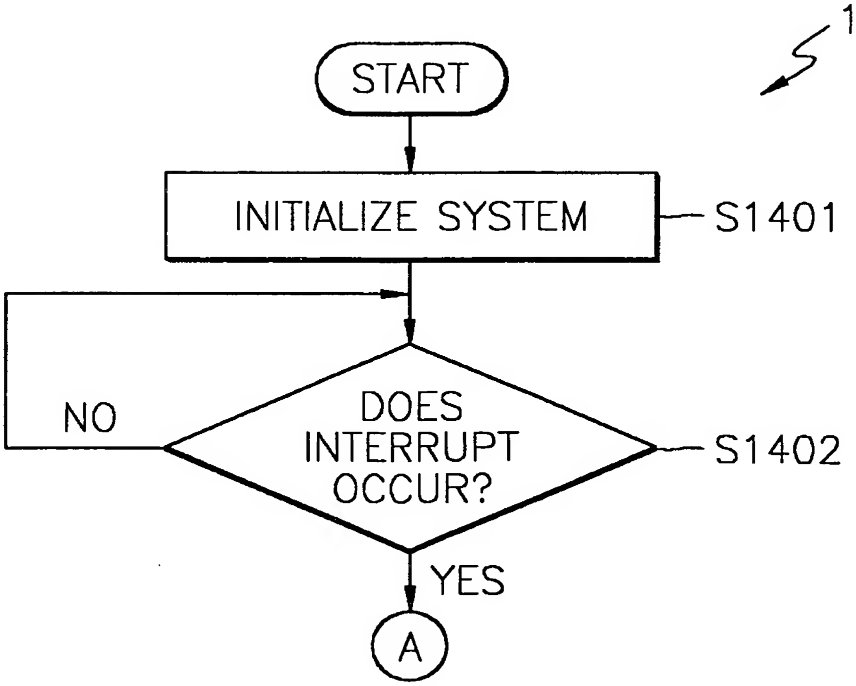

FIG. 15A

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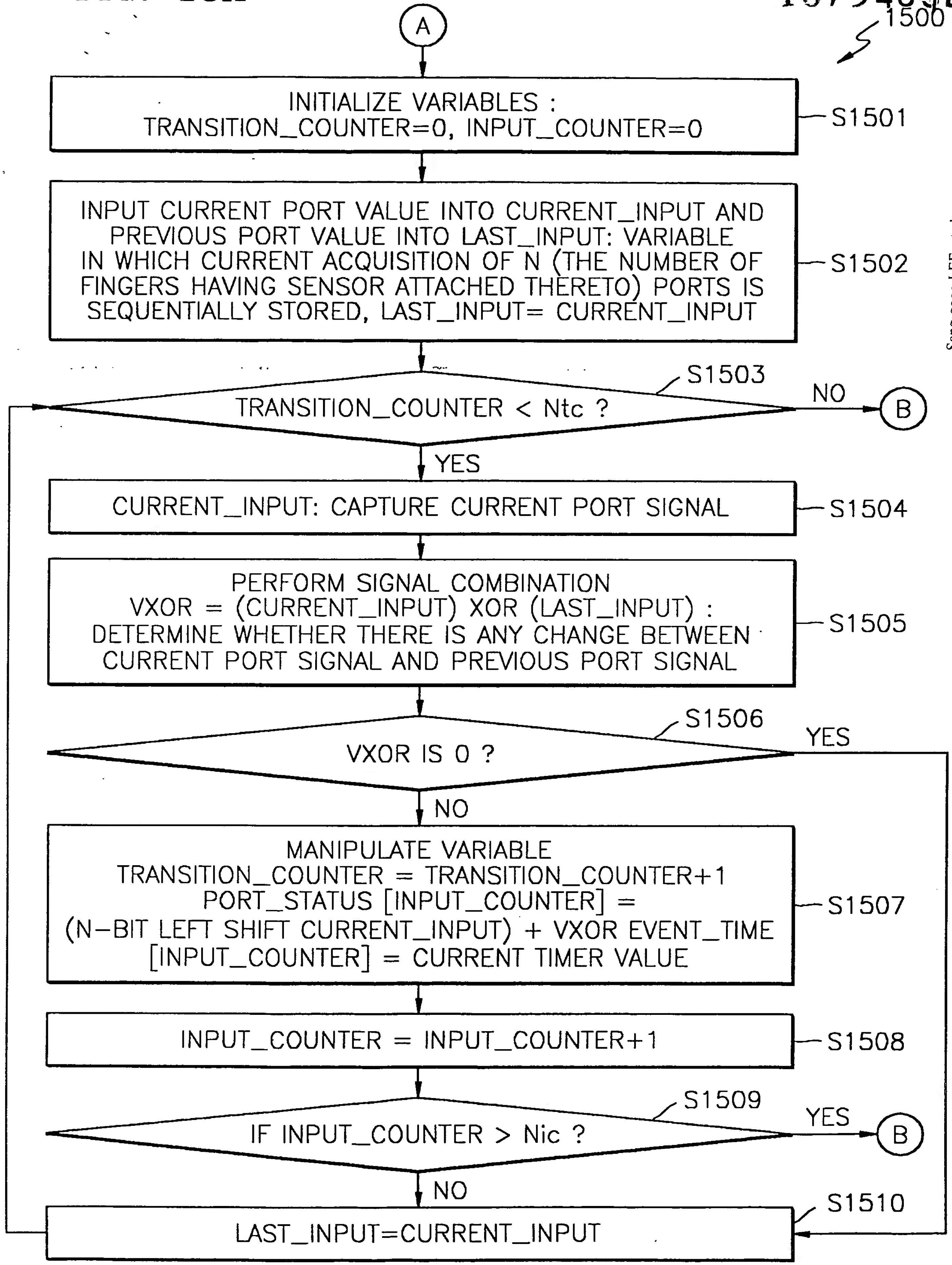

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FIG. 15B

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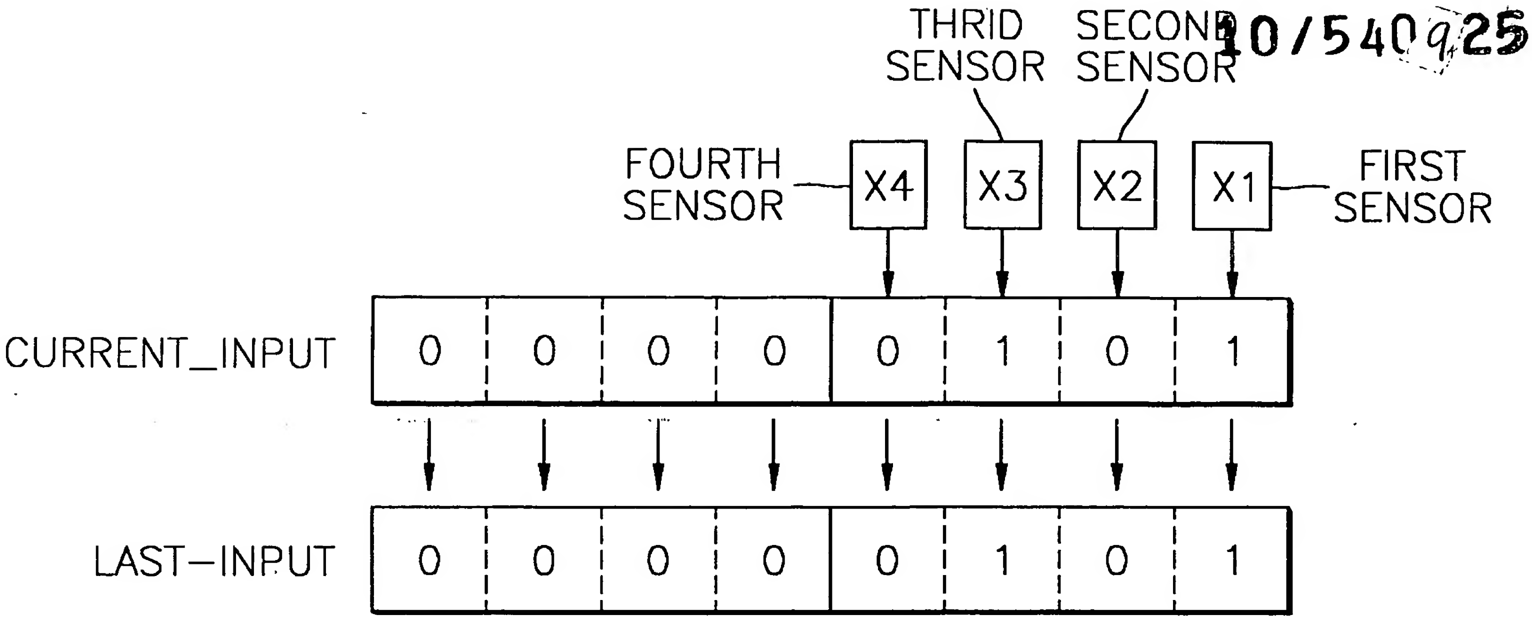
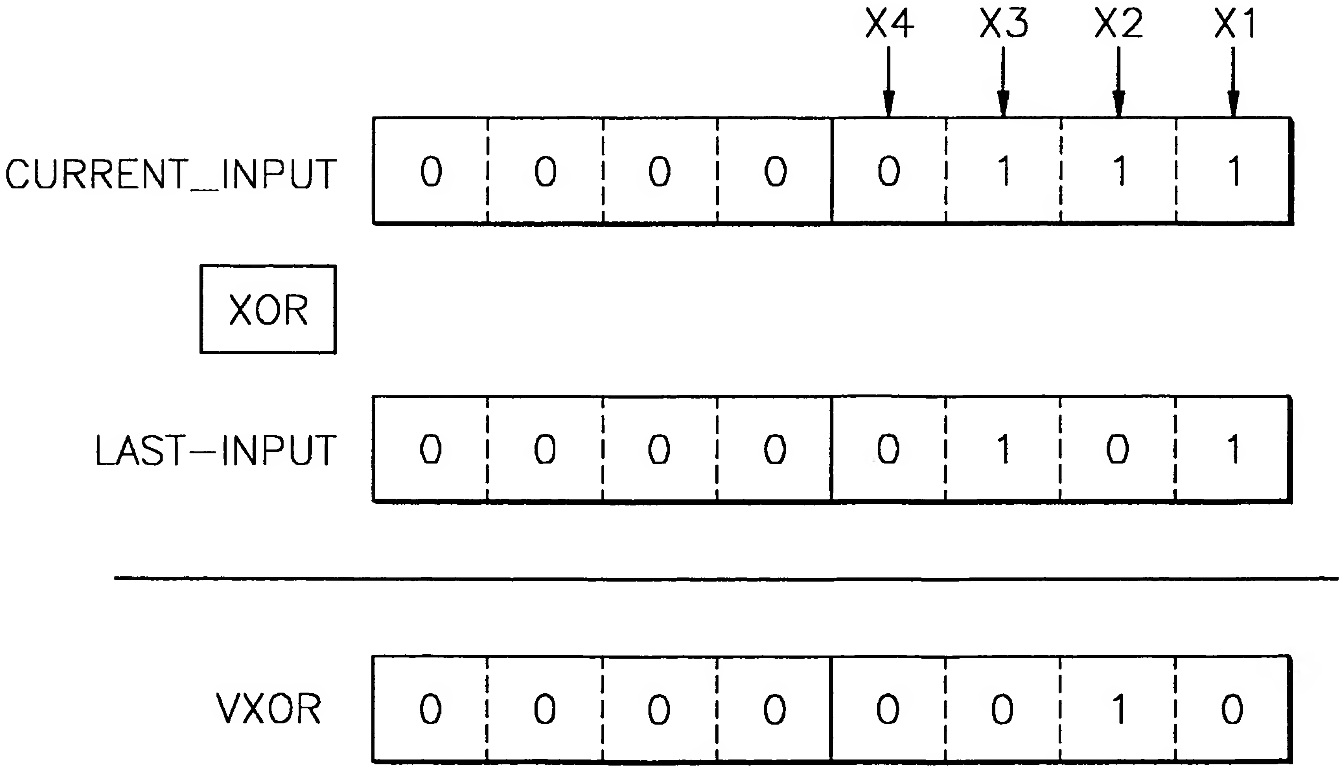


CURRENT_INPUT	0	0	0	0	0	1	0	1
LAST-INPUT	0	0	0	0	0	1	0	1

FIG. 15C



CURRENT_INPUT	0	0	0	0	0	1	1	1
LAST-INPUT	0	0	0	0	0	1	0	1
VXOR	0	0	0	0	0	0	1	0

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FIG. 15D

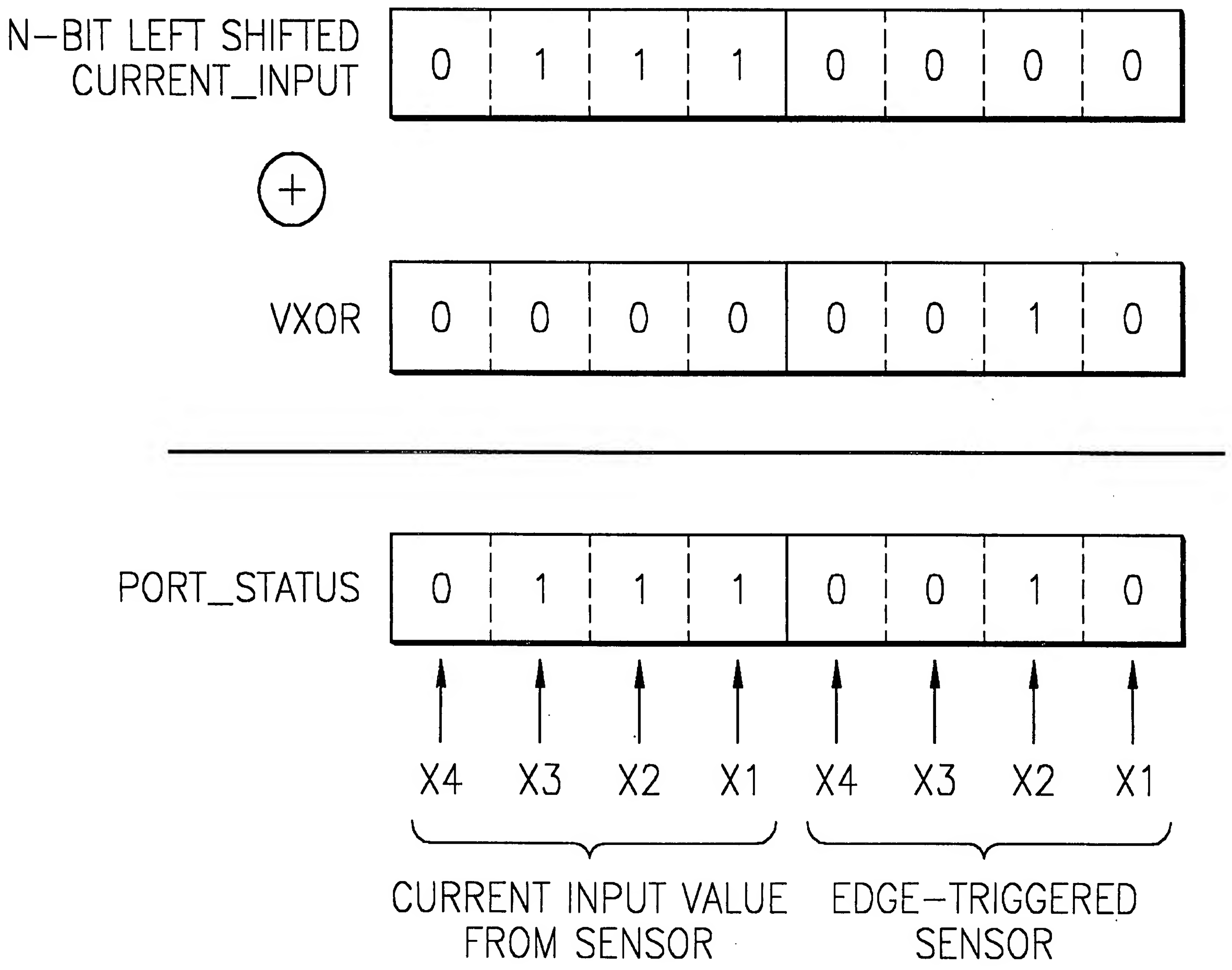

FIG. 15E

INPUT COUNTER	CURRENT_ INPUT	LAST_INPUT	VXOR	TRANSITION_ COUNTER	PORT_STATUS[ ]	EVENT_TIME[ ]
0	0000 0101					
	0000 0111	0000 0101	0000 0000	1	0111 0010	10
1	0000 1111	0000 0111	0000 1000	2	1111 1000	50
2	0000 1110	0000 1111	0000 0001	3	1110 0001	130
3	0000 1010	0000 1110	0000 0010	4	1010 0100	160
4	0000 1000	0000 1010	0000 1000	5	1000 0010	170
5	0000 0000	0000 1000	0000 1000	6	0000 1000	210
6	0000 0001	0000 0000	0000 0001	7	0001 0001	280
7	0000 0101	0000 0001	0000 0100	8	0101 0100	300
8	0000 0111	0000 0101	0000 0010	9	0111 0010	320
9	0000 1111	0000 0111	0000 1000	10	1111 1000	360
10	0000 1110	0000 1111	0000 0001	11	1110 0001	430
11	0000 1010	0000 1110	0000 0100	12	1010 0100	450

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FIG. 16A

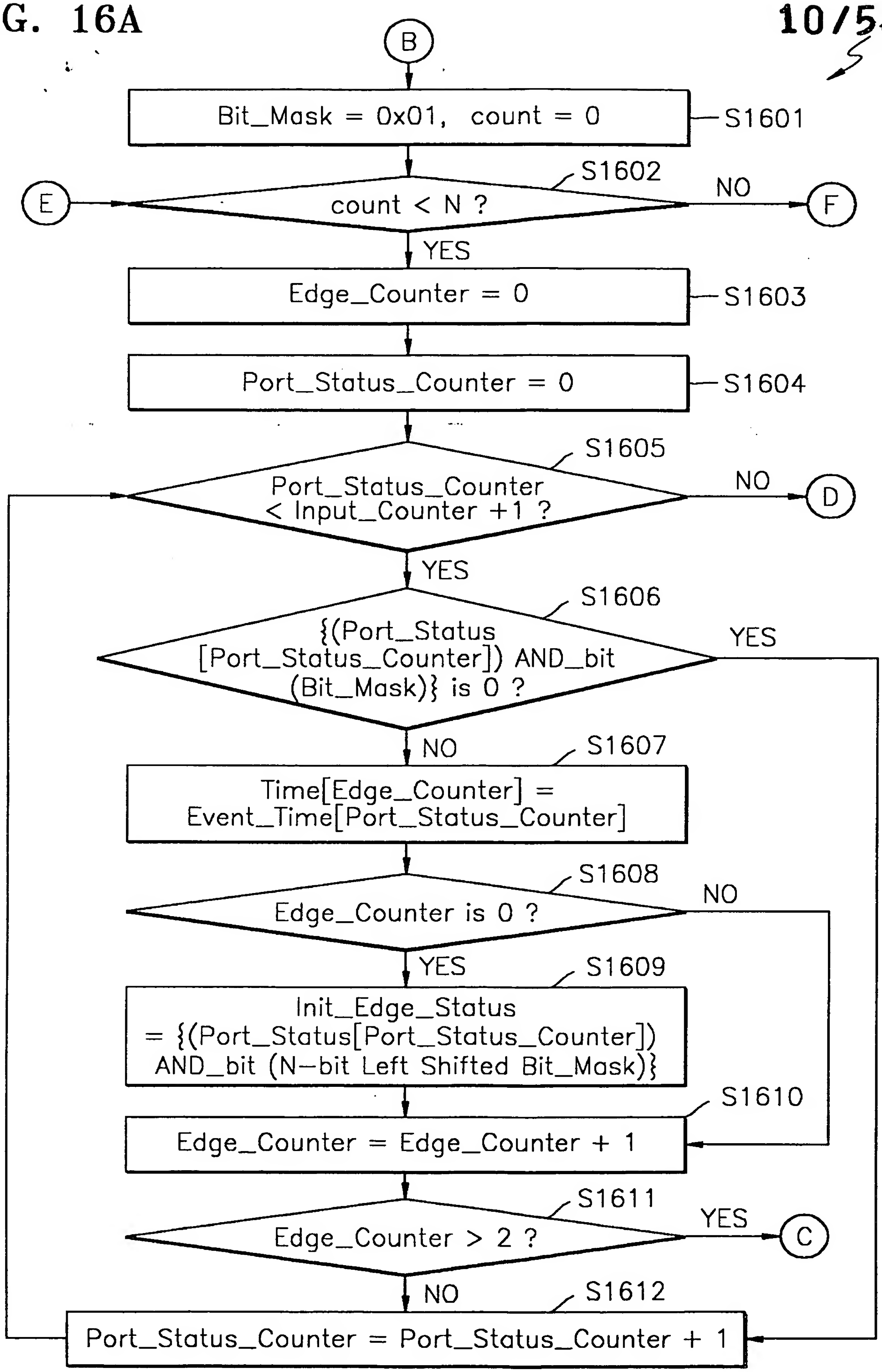

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FIG. 16B

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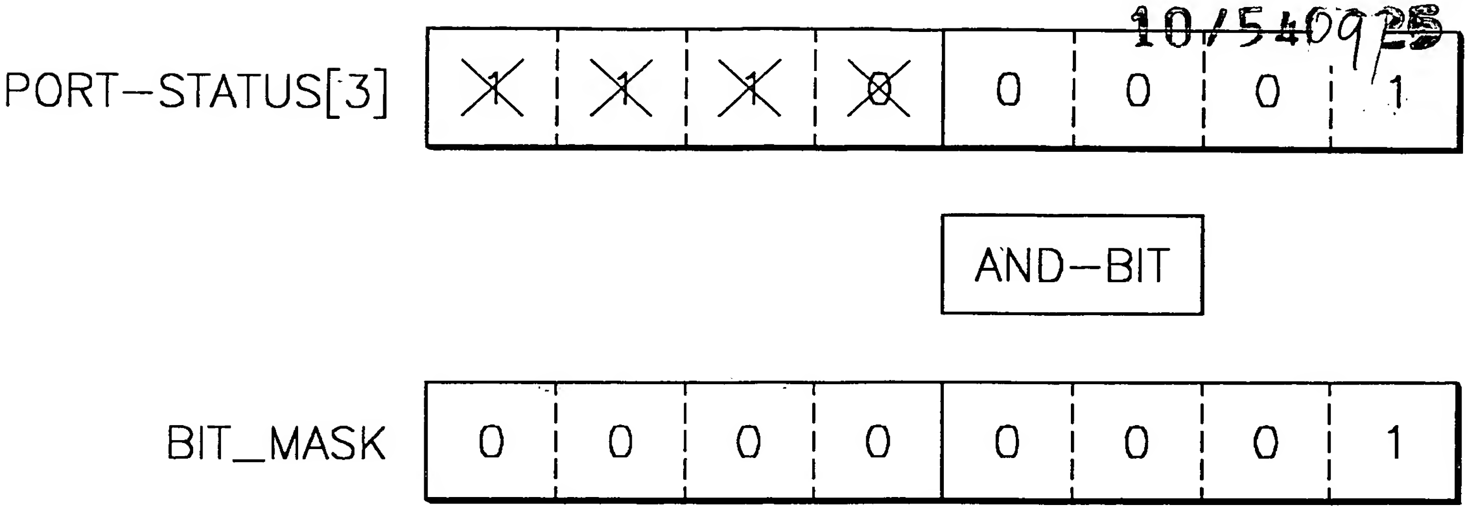

FIG. 16C

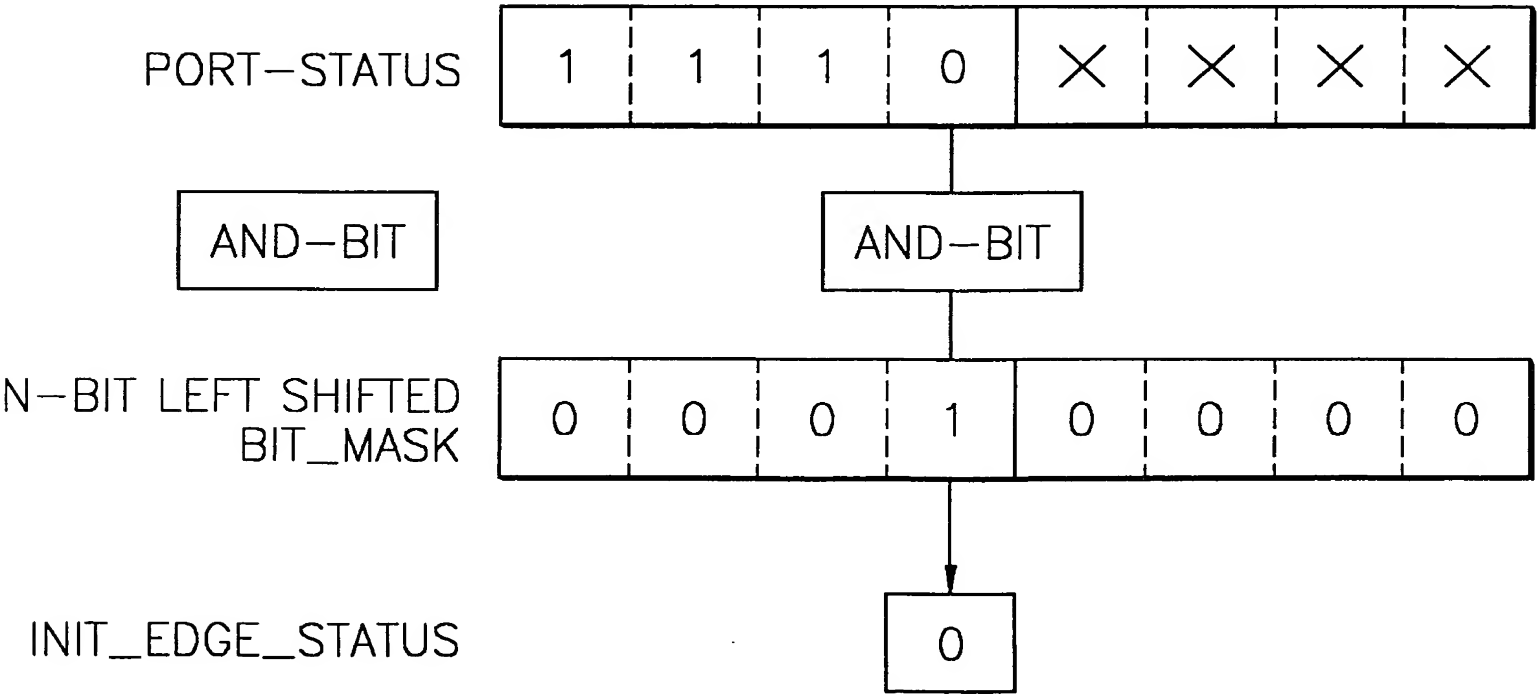

FIG. 16D

	X1	X2	X3	X4
Init_Edge_Status	0	1	0	1
Time[0]	130	10	160	50
Time[1]	280	170	300	210
Time[2]	430	320	450	360

FIG. 17

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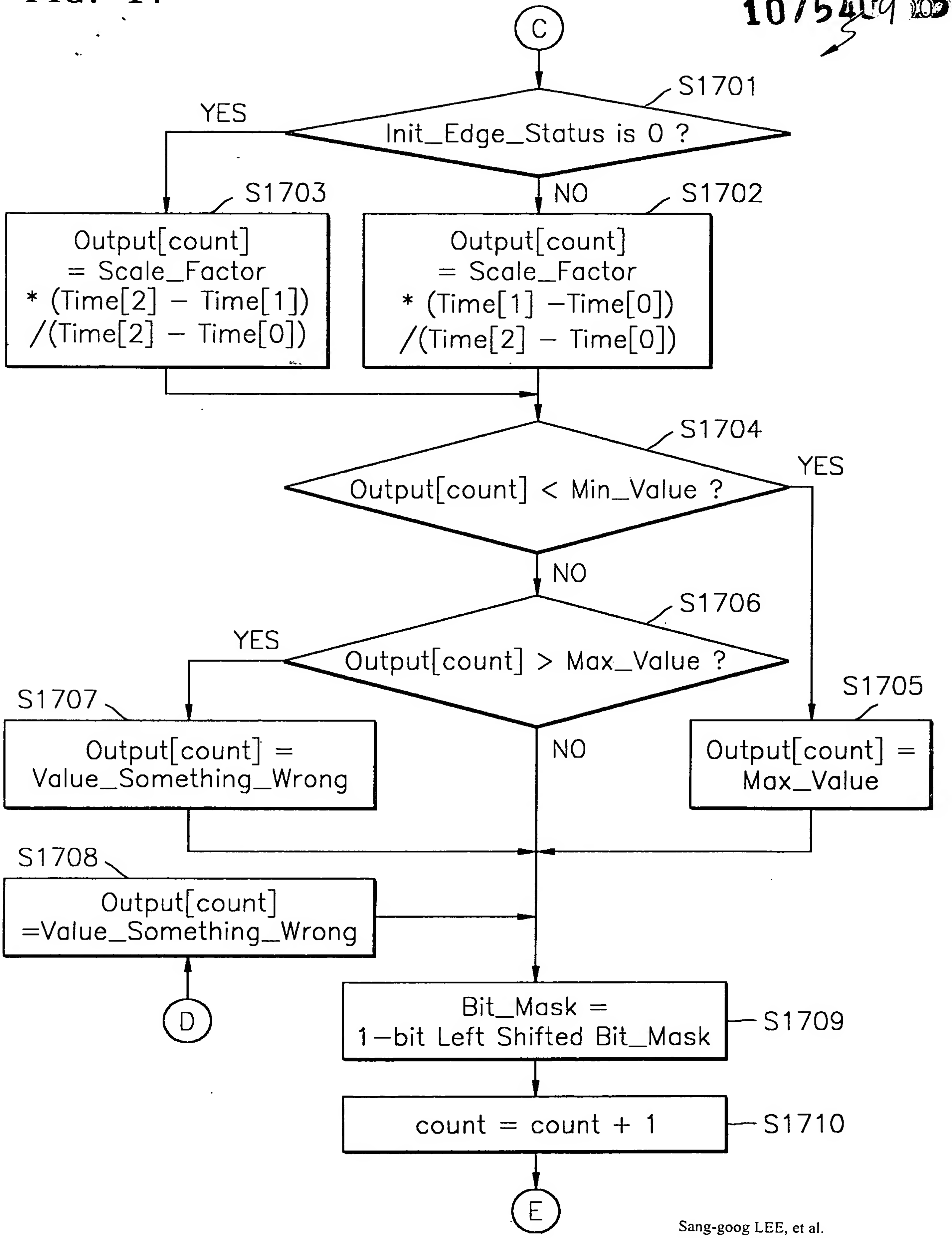

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FIG. 18A

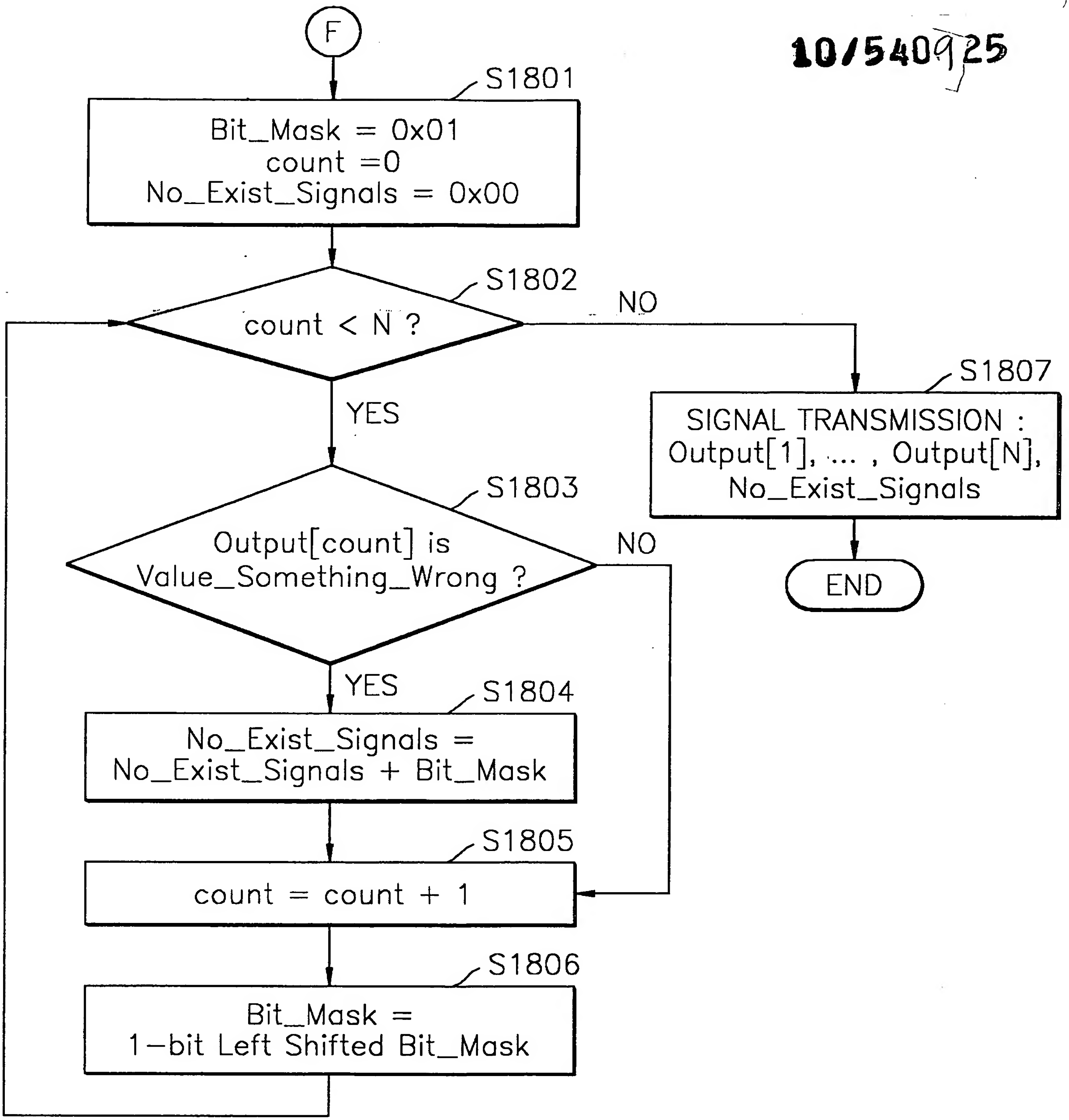

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FIG. 18B

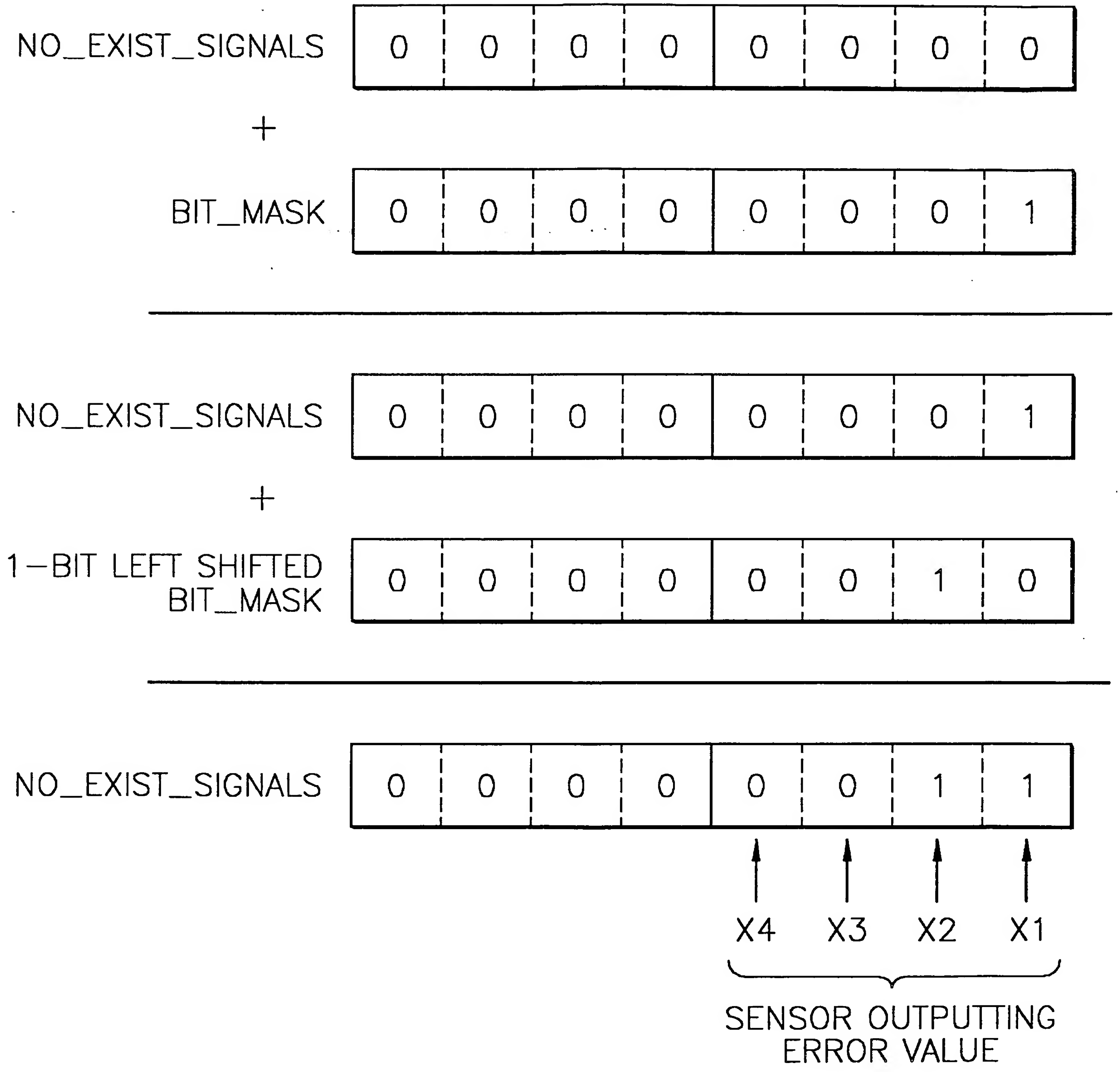

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FIG. 19

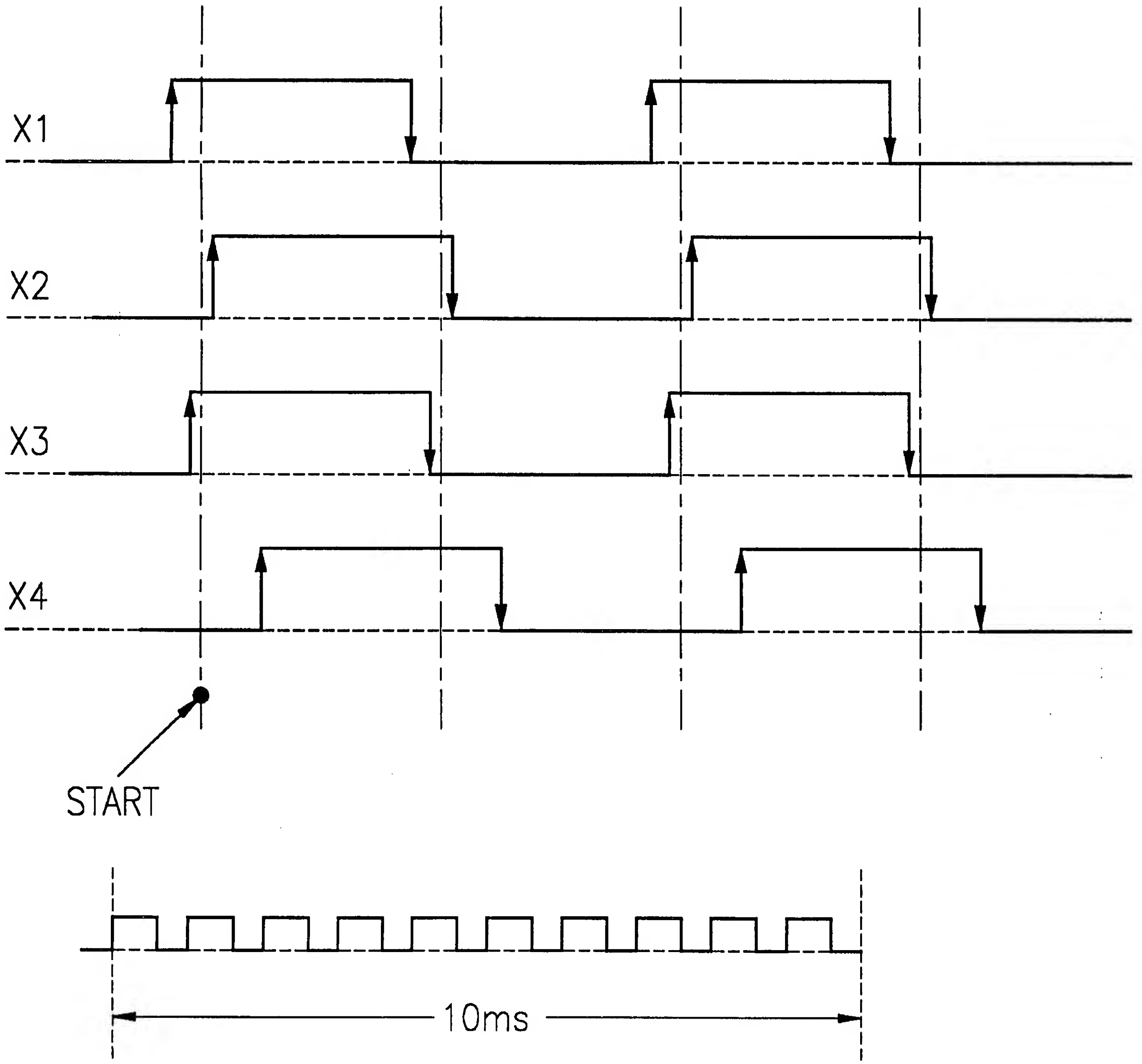

FIG. 20